

**BY ORDER OF THE COMMANDER
56TH FIGHTER WING (AETC)**

LUKE AFB INSTRUCTION 90-301

5 DECEMBER 2011

Special Management

ENERGY MANAGEMENT PROGRAM



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(Lt Col Chad BonDurant)

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This instruction implements AFI 90-1701, AFD 90-17, E.O. 13423 and E.O. 13514. It outlines the goals, responsibilities and conservation requirements of the Luke AFB energy management program. All organizations and tenants must comply with this instruction and perform specific tasks, as required, to eliminate waste and conserve energy resources. This publication applies to the Air Force Reserve Command (AFRC) and to Air National Guard (ANG) Units and members attached or assigned to Luke AFB. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional's chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afirms/afirms/afirms/rims.cfm>.

SUMMARY OF CHANGES

This publication has been substantially revised and must be completely reviewed. Revision includes renaming the product number from LUKEAFBI 23-301 to LUKEAFBI 90-301. Updates formatting as well.

1. Introduction. Luke AFB and all its geographically separated units consume significant amounts of energy in support of the national defense policy. Restrictive budgets and potential pollution of the environment requires Luke AFB to establish policies for responsible management, control, metering, and use of energy.

2. Goals. The overall goal of the Luke AFB energy management program is to comply with federally mandated energy reduction goals while maintaining working environments conducive to high productivity. The federal and Air Force mandated goals that Luke AFB must comply with are:

- 2.1. Reduce facility energy intensity 3% per year relative to a FY03 baseline.
- 2.2. Reduce potable water intensity 2% per year relative to a FY07 baseline.
- 2.3. Reduce industrial, landscaping and agricultural water consumption 2% per year relative to a FY10 baseline.
- 2.4. Increase renewable energy use to 25% by 2025.
- 2.5. Install advanced utility meters by 2016 in facilities where economically feasible.
- 2.6. For all new construction and renovations over \$2.5M, provide solar generated hot water for 30% of domestic hot water requirement.
- 2.7. Conduct energy audits every 4 years to meet federal energy requirements.
- 2.8. Conduct annual Energy Awareness Month; for Luke AFB this will be observed in the month of April.
- 2.9. Conduct annual energy security review to determine the installations vulnerability to energy interruptions. This review will be completed in February each year. The 56 FW/XP will lead a team composed of representatives from 56 FW/AT, 56 RMO, 56 FW/SE, 56 OSS/OSAA, 56 MXG/MOS, 56 CES/CEA, 56 CES/CEO, 56 CES/CEP, 56 CES/CEX, 56 CES/CEF, 56 SFS/S3, 56 CS/SCX, 56 AMS/SGP, 944 CES/CEO and 56 LRS/LGRF.
- 2.10. For all new construction and renovations over \$2.5M, ensure sustainable designs and construction meet LEED Silver standards.
- 2.11. Reduce fossil fuels usage in new facilities to eliminate consumption by 2030.
- 2.12. Reduce motor vehicle petroleum consumption 2% per year relative to a FY05 baseline.
- 2.13. Increase the purchase of alternative fuel, hybrid and plug-in hybrid vehicles when commercially available.
- 2.14. Increase alternative fuel consumption by at least 10% annually.

3. Responsibilities and Authorities. The following responsibilities and authorities are established by this instruction. Components of the energy policy mandated by law or Air Force Instruction cannot be locally waived.

- 3.1. The Luke AFB Energy Management Steering Group (EMSG) will be the focal point for energy-related matters and chaired by the 56 FW Vice Commander (CV). EMSG members are commanders of the 56th Operations Group (56 OG/CC), 56th Maintenance Group (56 MXG/CC), 56th Mission Support Group (56 MSG/CC), 56th Medical Group (56 MDG/CC), 944th Mission Support Group (944 MSG/CC), 56th Civil Engineer Squadron (56 CES/CC), 56th Logistic Readiness Squadron (56 LRS/CC), 56th Comptroller Squadron (56 FW/CPTS), 56th Security Forces Squadron (56 SFS/CC), 56th Force Support Squadron (56 FSS/CC), 56 Communications Squadron (56 CS/CC), 56th Operational Support Squadron (56th OSS/CC), 56th Aerospace Medical Squadron (56AMS/CC), 607th Air Control Squadron (607

ACS/CC), Det1 ACC/TRSS/CC; 56th Range Management Office Director (56 RMO), 56th FW Director of Staff (56 FW/DS), 56th LRS Fuels Management Flight (56 LRS/LGRF), 56th FW Public Affairs (56 FW/PA), 56th Safety (56 FW/SE), 56th CES Asset Management Flight (56 CES/CEA), Defense Commissary Agency Director (DeCA), Army Air Force Exchange Service General Manager (AAFES), and the Balfour Beatty Community Director for privatized housing.

3.1.1. The Luke AFB EMSG will meet quarterly, or more frequently, as directed by the chair.

3.1.2. In addition to the responsibilities outlined in AFI 90-1701, the Luke AFB EMSG will be responsible for reviewing progress towards meeting energy reduction goals and for establishing the necessary base policies to ensure energy reduction goals are achieved.

3.1.3. An Energy Working group/task force for infrastructure initiatives will convene monthly as directed by the 56 CES/CC. This working group will track Luke AFB's progress in meeting energy saving initiatives. These meetings will provide a foundation and direction for the EMSG and will facilitate discussion amongst infrastructure entities.

3.2. Commanders.

3.2.1. Commanders take an active role in energy management ensuring all assigned personnel comply with energy conservation directives. They shall ensure compliance with this instruction, and stress the importance of the individual's role in this program.

3.2.2. Commanders should make energy management and conservation a regular topic at commander's calls.

3.3. The Installation Energy Manager for infrastructure is the 56 CES/CEA Flight; the Installation Energy Manager for ground fuels/energy efficient vehicles is the 56 LRS/LRGT Flight.

3.3.1. Act as the focal points for the respective installation energy programs.

3.3.2. Monitor energy consumption and perform energy analyses using trends and patterns.

3.3.3. Identify, evaluate and recommend opportunities to reduce energy usage and develop plans/policies for EMSG approval.

3.3.4. Report energy/water consumption/intensity to EMSG (and MAJCOM via approved reporting systems) to track progress towards reduction goals.

3.3.5. Develop public awareness and training programs.

3.3.6. Conduct ongoing facility energy audits to increase energy awareness and identify projects to reduce energy consumption.

3.3.7. The 56 CES ensures new construction and major renovation projects comply with the base energy conservation policy.

3.3.8. The 56 CES oversees the base utility program.

3.4. Facility Managers (FM).

3.4.1. Will work with their respective commanders, utilize AFI 90-1701, and consult with the 56 CES/CEAO energy optimization staff to implement energy conservation measures in their assigned facilities.

3.4.2. Must attend the annual Facility Manager Training session.

3.4.3. Must provide 56 CES/CEOI twice per year (March and October) with an updated occupancy schedule for each assigned facility.

3.4.4. Must encourage and inform employees of the following standards:

3.4.4.1. Turn off and/or unplug lights, office equipment, appliances and computer equipment (such as monitors, printers, scanners, etc.) during unoccupied hours.

3.4.4.2. Shut windows and doors while cooling/heating units are running.

3.4.4.3. Ensure facility temperatures are in compliance with current guidelines.

3.4.4.4. Ensure no space heaters or portable air conditioning units are in use except where approved.

3.4.4.5. Report all water leaks, running toilets/faucets/showers immediately to the 56 CES service desk at 896-7083, and following up to ensure the problem is resolved.

3.4.4.6. Identify personally owned refrigerators, microwaves, televisions, extra lighting sources and other appliances and electronic equipment deemed energy excessive. These appliances are unauthorized without an approved waiver signed by the individual's Squadron commander. All approved appliances/devices must be Energy Star certified.

3.4.4.7. Create a facility energy reduction plan to be posted in each facility.

4. Energy Conservation Policy.

4.1. Facility temperature policy: Commanders will ensure their facilities comply with the following temperature set-points. 56 CES/CEO will use the Environmental Management Control System (EMCS) to remotely monitor and control temperature set-points in equipped buildings.

4.1.1. The temperature range for occupied administrative space (e.g., office buildings); cooling is 78°F, heating is 68°F.

4.1.2. The minimum temperature for unoccupied space (e.g., maintenance areas, storage areas); cooling is 84°F, heating is 55°F.

4.1.3. Waivers to the temperature set-points must be approved by the EMSG chair. AFI, technical order, or other official guidance will exempt units from having to request EMSG waiver. For example, AFMAN 32-1094 requires lower temperatures for PMEL calibration lab/testing areas. Facilities without this guidance will be required to obtain annual waivers, unless 56 CES can determine the issue is caused by system problems. 56 CES/CEA will maintain a list of these facilities and ensure projects are submitted to fix the situation. Waivers will have to be re-justified annually.

4.1.4. Requests will be routed through the facility manager. All facility waivers must be signed by the requesting commander and submitted to the 56 CES/CC for review at the EMSG.

4.1.5. All waiver requests shall include supporting documentation (AFI, medical, technical specifications, etc). 56 CES/CEAO will report the increased utility cost and energy consumption to the EMSG.

4.2. Lighting.

4.2.1. Interior Lighting.

4.2.1.1. The interior lighting levels specified in Table 4.1. represent the range for Luke AFB work areas. It should be understood that these levels are guidelines established by the Illuminating Engineering Society (IES) and represent the average light levels within the occupied space. When designing a modification to or new installation of lighting, the listed minimum level shall be considered in the design review process.

Table 4.1. Interior Lighting Levels.

Interior Lighting Levels:	
Area/Activity	Foot-Candles
Offices, General	20 – 50
Hallways	10 – 20
Conference Rooms	20 – 50
Rest Rooms	20 – 50
Service Areas	30 – 50
Shop Areas	30 – 50
Warehouse/Active	20 – 50
Warehouse/Inactive	5 – 10
Storage Areas	5 – 20
Maintenance Areas	20 – 50
General Aircraft Maintenance Area	50 – 75
Retail Spaces	10 – 50
Food Service Area	10 – 50
Classrooms	20 – 50

4.2.1.2. Commanders and facility managers will ensure interior lighting is turned off whenever a facility is unoccupied; minimum safety and security lighting will be exempt from this requirement.

4.2.2. Exterior lighting.

4.2.2.1. Commanders and facility managers will ensure exterior lighting is turned off during daylight hours.

4.2.2.2. Airfield area lighting levels will be designed to meet security requirements as identified in UFC 3-530-01 Para. 12-1.15.

4.2.2.3. Street lights shall maximize energy efficiency and maintain a light level consistent with security requirements. Periodic surveys will be conducted to determine if the number of street lights should be reduced; wattage calculations will be used.

4.2.2.4. Sport field lighting will be turned off when not in use.

4.2.2.5. Facility lights will be the most energy efficient available. Periodic surveys will be conducted to determine if the number of facility lights can be reduced.

4.2.2.6. Night lighting surveys will be performed by each October by the 56 CES/CEAO element to identify unnecessary/unscheduled lighting.

4.3. Office Equipment.

4.3.1. Personnel will turn off all computer peripherals (monitors, speakers, scanners, printers, etc.) at the end of the duty day.

4.3.2. Personnel will turn off copy machines and network printers at the end of the duty day.

4.3.3. Office equipment will be consolidated into common areas where feasible; this includes printers, copiers, scanners, etc.

4.4. Hot Water.

4.4.1. Administrative areas will have water heaters shut off and/or removed where facility design permits.

4.4.2. For facilities without showers or tubs, the actual measured temperature of hot water delivered to the user will not exceed 100°F.

4.4.3. For facilities with showers or tubs, the actual measured temperature of hot water delivered to the user will not exceed 110°F.

4.4.4. For facilities where laundry capabilities exist, occupants should use cold water type detergents if washing difficulties are encountered at 110°F.

4.5. Landscaping and Xeriscaping.

4.5.1. New landscaping initiatives will use reclaimed water.

4.5.2. Xeriscaping will be considered as an alternative option to landscaping. Xeriscaping should primarily include native plants that do not need watering once established.

4.6. Facility Appliances and Equipment (government owned).

4.6.1. Appliances and equipment will be operated only as necessary to meet mission requirements and will be turned off/put in standby when not in use.

4.6.2. Commanders and Government Purchase Card (GPC) approving officials will ensure all appliances and electrical equipment purchased are Energy Star Certified per EPACT 2005 Section 553.

4.7. Personal Appliances and Equipment (not government owned).

4.7.1. Personal appliances and equipment that consume excessive energy (greater than 1 watt of power in standby mode) are not authorized.

4.7.2. Personal appliances and equipment will be operated only as necessary and will be turned off or placed in standby when not in use. Commanders should only authorize personally owned refrigerators when a documented medical condition exists.

JERRY D. HARRIS, JR.
Brigadier General, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

EPACT, *Energy Policy Act*, 8 Aug 05

EISA, *Energy Independence & Security Act*, 19 Dec 07

E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, 24 Jan 07

E.O. 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, 5 Oct 09

AFI 90-1701, *Energy Management*, 16 Jul 09

AFI 90-801, *Environment, Safety, and Occupational Health Councils*, 29 Dec 09 (certified current)

AFPD 90-17, *Energy Management*, 16 Jul 09

AFPD 90-8, *Environment, Safety, and Occupational Health*, 1 Sep 04

AFMAN 33-363, *Management of Records*, 1 Mar 08

Adopted Form

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

°F—Degree(s) Fahrenheit

AF—Air Force

AFB—Air Force Base

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

ANG—Air National Guard

CES—Civil Engineer Squadron

DeCA—Defense Commissary Agency Director

EESOHHC—Energy, Environmental, Safety and Occupational Health Council

EMCS—Environmental Management Control System

EMSG—Energy Management Steering Group

E.O.—Executive Order

FM—Facility Managers

FY—Fiscal Year

GPC—Government Purchase Card

HVAC—Heating, Ventilating and Air Conditioning

MAJCOM—Major Command

OPR—Office of Primary Responsibility

RDS—Records Disposition Schedule

Terms

Energy Intensity—: facility energy used per square foot

Water Intensity—: facility water used per square foot

Attachment 2

**SAMPLE WAIVER TO DEVIATE FROM ENERGY CONSERVATION
REQUIREMENTS****DEPARTMENT OF THE AIR FORCE
56TH FIGHTER WING
LUKE AIR FORCE BASE, ARIZONA**

MEMORANDUM FOR 56 FW/CV

[date]

FROM: (your organization)

SUBJECT: Request Waiver to Temperature Set-point Requirements Outlined in LAFBI 90-301

1. Request a waiver to the temperature set-points in LAFBI90-301, para 4.1 from (insert dates, NTE 12 months). Request the new set-point be (insert set-point). The reasoning for this request is (supply reasoning). Attached is our supporting documentation/information.
2. Please direct questions to our POC, (name) at extension XXXX.

NAME, (Rank), USAF
Commander, 56th XXX

1st Ind, Your Group/CC

Recommend Approval

NAME, Colonel, USAF
Commander, 56th XXX

Approved/Disapproved

NAME, Colonel, USAF
Vice Commander